

Stubblebine 109755con-1

IN THE CLAIMS:

- 52. (Original) A method for system security in distributed systems, comprising the steps of:
- a) deriving freshness constraints from initial policy assumptions and an authentic statement:
- b) imposing freshness constraints by employing recent-secure authenticating principals to effect revocation; and
- c) verifying that a relation $f \left| t_{now} t_{time.stump} \right| \le \delta$ is satisfied for verification of a secure channel, where $t_{time.stamp}$ being a time of a time stamp pertaining to a validity assertion of a particular assertion, δ being a minimum necessary freshness constraint pertaining to the particular assertion and t_{now} being the time of verification;
- 53. (Currently Amended) A system for enforcing revocation in distributed systems, comprising:
- a) means for asserting creating a time-stamped validity assertion message pertaining to the validity of an initial assertion;
- b) means for asserting a freshness constraint[[s]] indicating a length of time, and relating to said initial assertion the initial assertions that the freshness constraints relate to; and
- c) means for verifying that a relation $|t_{now} t_{ilmesnamp}| \le \delta$ is satisfied-for each particular assertion necessary for verification of a secure channel, where $t_{time\ stamp}$ is a time of a time stamp contained in said message pertaining to the validity assertion of a particular assertion, δ being is a selected constant that represents a minimum necessary freshness constraint pertaining to said initial assertion the particular assertion, and t_{now} is being the time of verification.
- 54. (Currently Amended) A system for protecting an authority of a distinguished principal and enforcing revocation when the authority is compromised, comprising:

Stubblebine 109755con-1

- a) a first means-for issuing an authoritative assertion by a distinguished principal;
 - b) a second means for asserting freshness constraints on the assertion;
- c) a third means for asserting a time stamped validity assertion to the assertion indicating the validity of the assertion at the time of the time stamp; and
- d) means for verifying that a relation $|t_{now} t_{timestump}| \le \delta$ is satisfied for each particular assertion necessary for verification of a secure channel, where $t_{time\ stamp}$ being the time of a time stamp pertaining to the validity assertion of the particular assertion, δ being the minimum necessary freshness constraint pertaining to the particular assertion, and t_{now} being the time of verification.
- 55. (Original) A system for issuing certificates in a system for enforcing revocation in distributed systems, comprising:
- a) means for issuing certificates for principals within an organization by the organization;
- b) means for asserting, by the organization, a principal authorized as an authority for issuing time stamped certificates;
- c) means for delegating authority for issuing time stamped certificates:
 - d) means for asserting freshness constraints on assertions; and
- e) means for verifying that a relation $|t_{now} t_{now,stamp}| \le \delta$ is satisfied for each particular assertion necessary for verification of a secure channel, where trime stome being a time of a time stamp pertaining to the validity assertion of a particular assertion, δ being a minimum necessary freshness constraint pertaining to the particular assertion and t_{now} being the time of verification.
- (Original) A system for system security in a distributed system network, comprising:



Stubblebine 109755con-1

- a) means for preparing a statement of an assigned revocation authority in a distributed system network in response to a policy, said revocation authority statement being associated with an initial statement;
- b) means for preparing a statement of a freshness constraint period in the distributed system network in response to said policy, said freshness statement being associated with said revocation authority statement;
- c) means for preparing a validity statement at said assigned revocation authority in the distributed system network in response to said policy, said validity statement including a verification status at some temporal reference;
- d) means for providing said revocation authority statement, said freshness statement, and said validity statement to a verification authority in the distributed system network; and
- e) means for selectively verifying said initial statement at said verification authority in response to said initial statement, said revocation authority statement, said freshness statement, and said validity statement.

